



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 30, 2017

Mr. Roy Mathew
18837 Falling Star Road
Germantown, MD 20874

Dear Mr. Mathew:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your petition dated January 23, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17026A309), submitted to the Secretary of the Commission pursuant to Section 2.206, "Requests for action under this subpart," of Title 10 of the *Code of Federal Regulations* (10 CFR). In your petition you requested that:

The United States Nuclear Regulatory Commission (NRC) **immediately withdraw NRC approval of license amendments 199 and 200** issued on December 23, 2016 [ADAMS Accession No. ML16358A676], and January 4, 2017 [ADAMS Accession No. ML17004A020], respectively to Renewed Facility Operating License No. NPF-74 for the Palo Verde Nuclear Generating Station (PVNGS), Unit 3. The amendments consist of changes to the Technical Specifications (TSs) in response to Arizona Public Service Company's (the licensee's) application dated December 21, 2016 [ADAMS Accession No. ML16356A689], as supplemented by letter dated December 23, 2016 [ADAMS Accession No. ML16358A715], and application dated December 30, 2016 [ADAMS Accession No. ML16365A240], as supplemented by letters dated January 2 [ADAMS Accession No. ML17002A001] and January 4, 2017 [ADAMS Accession No. ML17004A238].

The full text of your request is publicly available on the NRC's Web site at www.nrc.gov, in ADAMS, under Accession No. ML17026A309. The Secretary of the Commission assigned your petition to the Executive Director for Operations (EDO), and the EDO assigned it to the Office of Nuclear Reactor Regulation (NRR) for review. Management Directive (MD) 8.11, "Review Process for 10 CFR 2.206 Petitions," dated October 25, 2000 (ADAMS Accession No. ML041770328), describes the NRC's review process for 10 CFR 2.206 petitions.

On December 15, 2016, during surveillance testing of PVNGS, Unit 3 Train B Diesel Generator (DG), the DG suffered a failure of a connecting rod and piston. The licensee's plans to repair the DG would exceed the TS required action completion of 10 days resulting in a plant shutdown. As described above, the licensee submitted two emergency amendments to extend the DG 3B allowed outage time (AOT). The NRC-approved emergency amendments extended the action completion time to 21 days for amendment 199, and 62 days for amendment 200.

On February 1, 2017, the Petition Review Board (PRB) met internally to discuss whether your petition raised concerns that warranted immediate action. By the time you submitted your petition on January 23, 2017, amendment 199 had already expired making your request for withdrawal of approval of that license amendment moot. Because amendment 200 was still in effect (due to expire on February 15, 2017), your request for withdrawal of NRC-approved

amendment 200, if granted, would have required the licensee to shut down PVNGS, Unit 3. Therefore, the PRB considered your petition to be a request to immediately shut down PVNGS, Unit 3. Based on the information you provided, the PRB did not identify a significant concern that warranted the NRC to immediately require the licensee to shut down PVNGS, Unit 3.

On February 1, 2017, the NRR Petition Manager and the Petition Coordinator informed you of the PRB's decision to deny the request for immediate action. The Petition Manager also offered you an opportunity to address the PRB, or provide supplemental information. You declined on the basis that the petition already contained all of the relevant information to support the PRB's review.

On March 1, 2017, the PRB met again to make its initial recommendation on whether to accept or reject your petition for review using the criteria in MD 8.11. In making its recommendation, the PRB considered the information in your petition and the following documents:

- Generic Letter (GL) 80-30, "Clarification of the Term 'Operable' as it Applies to Single Failure Criterion for Safety Systems Required by TS."
- "Response to Public Comments on Draft Branch Technical Position (BTP) 8-8: Onsite (Emergency Diesel Generators) and Offsite Power Sources Allowed Outage Time Extensions" (ADAMS Accession No. ML113640144).
- Regulatory Guide (RG) 1.174, Revision 2, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decision on Plant-Specific Changes to the Licensing Basis," dated May 2011 (ADAMS Accession No. ML100910006).
- Regulatory Guide (RG) 1.177, Revision 1, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications," dated May 2011 (ADAMS Accession No. ML100910008).

After careful consideration of the issues raised in your petition, the NRC PRB ultimately decided to reject the petition because the issues you raised did not provide any new information that had not been considered by the NRC staff in its prior reviews of amendments 199 and 200. In addition, as of February 15, 2017, amendment 200 expired, therefore, the action you requested (withdrawing the approved license amendment) became moot. On March 28, 2017, the NRC staff informed you of the PRB's recommendation and offered you another opportunity to address the PRB, which you declined. Therefore, the PRB's recommendation became final.

The remainder of this letter explains how the assertions made in your petition were already considered by the NRC staff in its reviews of these license amendments.

Assertion 1:

There was a violation of the current licensing basis (CLB) when the licensee did not consider loss of offsite power (LOOP), loss-of-coolant accident (LOCA) and a single failure simultaneously. As a result, the postulated design-basis accidents (DBAs) described in Chapters 6 and 15 of the PVNGS Updated Final Safety Analysis Report (UFSAR) were not met.

NRC Response:

In the NRC staff's evaluations of amendments 199 and 200, the staff determined that the CLB was not violated, and the operable DG 3A and offsite power would have functioned as required beyond AOT of 10 days to mitigate the DBAs evaluated under PVNGS UFSAR Chapters 6 and 15, based on the following points:

- NRC GL 80-30 states that the specified time to take action, usually called the equipment out-of-service time (required redundancy is not maintained), is a temporary relaxation of the single failure criterion. Single failures of operable components such as DG 3A are not required to be postulated when in a TS Limiting Condition for Operation (LCO).
- LOCAs are one of the DBAs considered under "Internal Events PRA [Probabilistic Risk Assessment] (including Internal Flooding)" in Section 3.3.4.1 of the NRC safety evaluation (SE) for amendment 200. In that SE, the NRC staff determined that LOCAs are not a significant contributor to the increase in risk, and the risk analysis results met the RG 1.177 risk acceptance guidelines by a large margin.
- As discussed in Section 3.2 of the NRC SE for amendment 200, the failure of DG 3B was unique, and rest of the diesels including DG 3A had no history of adverse problems. Therefore, DG 3A would have functioned, as required, to mitigate DBAs during the one-time only TS change.
- As stated in Section 3.4.1 of the NRC SE for amendment 199, the train A DG is provided with adequate independence to mitigate all postulated accidents.
- As stated in Section 3.3.3 of the NRC SE for amendment 200, offsite power sources, and one train of onsite power source would continue to be available for the scenario of a LOCA.

Assertion 2:

The NRC's "No Significant Hazards Consideration" (NSHC) was incorrect because continued operation of the plant involved a significant reduction in safety margins for DBAs. Further, operating without DG 3B did not meet the requirements of General Design Criterion (GDC) 17, "Electric power systems," to Appendix A of 10 CFR, 10 CFR 50.46, "Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors," and 10 CFR 50.92, "Issuance of amendment."

NRC Response:

In the NRC staff's evaluation of amendments 199 and 200, the staff determined that the safety margins for an AOT of 62 days were acceptable, and the requirements of GDC 17, 10 CFR 50.46, and 10 CFR 50.92 were met based on the following reasons:

- As stated in Section 3.1 of the NRC SE for amendment 199, the components of the standby power supply system, including related controls, required to supply power to engineered safety features and cold shutdown loads conform to the requirements of GDC 17. As stated in Section 3.4.2 of the NRC SE for amendment 199, the NRC staff reviewed whether the proposed TS changes would have any impact on the licensee's

compliance with GDC 17, GDC 18, 10 CFR 50.36, 10 CFR 50.63, and 10 CFR 50.65. The staff did not find any adverse impact on continued compliance with these regulatory requirements. Therefore, the staff found that reduction in margin of safety would be minimal.

- As stated in Section 3.3.3 of the NRC SE for amendment 200, the NRC staff found that due to defense-in-depth of onsite and offsite power source, and other supporting Diverse and Flexible Coping Strategies (FLEX) equipment, the reduction in safety margin would be minimal for the more likely scenarios of LOOP and station blackout. Offsite power sources and one train of onsite power source (DG 3A) would continue to be available for the scenario of a LOCA. Therefore, the reduction in safety margin would also be minimal for a LOCA.
- The NRC staff considered DBAs and scenarios for cold shutdown of the plant in its reviews for amendments 199 and 200, and concluded that the consequences of LOCAs could be mitigated with a minimum reduction in safety. For this reason, and for the reasons stated above, the requirements of 10 CFR 50.46 and 10 CFR 50.92 were met.

Assertion 3:

The NRC staff did not appropriately follow the guidance provided in NUREG-0800, Standard Review Plan (SRP), Branch Technical Position (BTP) 8-8, "Onsite (Emergency Diesel Generators) and Offsite Power Sources Allowed Outage Time Extensions" (ADAMS Accession No. ML113640138), which states that emergency DG AOTs should be limited to 14 days.

NRC Response:

The NRC staff did follow BTP 8-8 guidelines in its evaluations of amendments 199 and 200.

As discussed in Section 3.4.2 of the NRC SE for amendment 199, the NRC staff determined that there were multiple, diverse means of supplying electrical power to the safety buses to safely shutdown Unit 3 and maintain the plant in a cold shutdown condition. The staff also found that the PVNGS portable DGs had the capacity and capability to support the loads necessary to mitigate a LOOP event and bring the unit to cold shutdown in case of an extended LOOP concurrent with a single failure of the DG 3A during plant operation, thereby meeting the intent of BTP 8-8 in achieving a cold shutdown.

In addition, in 2011, before BTP 8-8 was finalized, the Nuclear Energy Institute (NEI) submitted a comment on the draft version of BTP 8-8 requesting that the NRC withdraw BTP 8-8 until the lessons learned from the Fukushima accident could be identified and evaluated. In a February 21, 2012, response to public comments, the NRC disagreed with the NEI comment at that time because of the pending staff actions on the Near-Term Task Force Review recommendations (ADAMS Accession No. ML113640144). However, the NRC stated, "Any impact on this BTP as a result of Fukushima Lessons Learned activities will be incorporated, if necessary, in a future revision of this BTP." To date, BTP 8-8 has not been revised since its initial issuance in February 2012, although 85 of the 99 operating power reactors, including PVNGS, are now in compliance with the Fukushima Mitigation Strategies Order (EA-12-049). Given the requirements imposed by the Mitigation Strategies Order, the 14-day guidance in BTP 8-8 may need to be updated to reflect current defense-in-depth strategies.

Assertion 4:

The NRC denied a similar D.C. Cook license amendment for not meeting the DBAs (ADAMS Accession No. ML15154B045).

NRC Response:

The NRC staff's reviews of amendments 199 and 200 were specific to PVNGS. The NRC rejected the 2015 D.C. Cook emergency license amendment request (ADAMS Accession No. ML15149A412) because the results of the plant-specific risk evaluations as evaluated by the staff were not acceptable. Specifically, there were significant differences between incremental conditional core damage probability values calculated by the staff and those calculated by the licensee. Therefore, the staff found that the risk increases could exceed the RG 1.177 acceptance guidelines due to the uncertainty in the possibility of a common cause failure mode for the other emergency DGs that was not included in the application. The staff did not encounter these circumstances in its review of amendments 199 and 200 for PVNGS.

Assertion 5:

The NRC action was inconsistent with the NRC mission, vision, safety objectives, regulatory effectiveness strategies, openness strategies, and the principles of good regulation.

NRC Response:

The NRC staff approved amendment 199 using a deterministic evaluation, by considering whether the request met the defense-in-depth guidance of BTP 8-8, and maintained safety margins. The staff approved amendment 200 using the three-tiered approach and the five key principles of risk-informed decisionmaking presented in RG 1.174 and RG 1.177. These guidance documents embody the NRC values and principles of good regulation. Therefore, for these reasons, and for the reasons stated in the other responses above, the NRC approval of amendments 199 and 200 for PVNGS, Unit 3 were consistent with the NRC mission, vision, safety objectives, regulatory effectiveness strategies, openness strategies, and the principles of good regulation.

Conclusion

In conclusion, the NRC staff approved both of the PVNGS emergency amendments by ensuring that the amendments met the applicable regulatory requirements and maintained the acceptable safety margins. In doing so, the staff utilized deterministic and risk informed assessments, while accounting for compensatory actions and regulatory commitments without compromising the health and safety of the public. Therefore, in accordance with MD 8.11, Part III, Section C.2, the PRB rejects the petition because it raises issues that had already been subject of NRC staff review and evaluation for which a resolution had been achieved.

R. Mathew

- 6 -

The Petition Manager, Mr. Siva Lingam, can be reached at (301) 415-1564.

Sincerely,

A handwritten signature in black ink that reads "Kathryn M. Brock". The signature is written in a cursive style with a large, stylized initial 'K'.

Kathryn M. Brock, Deputy Director
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

cc: Listserv

SUBJECT: LTR-17-0038 – 2.206 PETITION ON PALO VERDE NUCLEAR GENERATING STATION, UNIT 3 – ISSUANCE OF AMENDMENT NOS. 199 AND 200 RE: REVISION TO TECHNICAL SPECIFICATION 3.8.1, “AC [ALTERNATING CURRENT] SOURCE-OPERATING” DATED MARCH 30, 2017

DISTRIBUTION: LTR-17-0038-1

PUBLIC

LPL4 r/f

RidsACRS_MailCTR Resource

RidsEdoMailCenter Resource

RidsNrrDorl Resource

RidsNrrDorlLpl4 Resource

RidsNrrLAPBlechman Resource

RidsNrrOd Resource

DJones, OE

RidsNrrPMPaloVerde Resource

RidsOcaMailCenter Resource

RidsOeMailCenter Resource

RidsOpaMail Resource

RidsRgn4MailCenter Resource

MBanic, NRR

HBarrett, NRR

MHumberstone,

MMcConnell, NRR

PSnyder, NRR

CTilton, NRR

ITseng, NRR

RWolfgang, NRR

RArrighi, OE

MSimon, OGC

CNewport, RIV

ADAMS Accession Nos.

Package ML17026A311

Incoming Petition ML17026A309

Final Letter ML17055C583

OFFICE	NRR/DORL/LPL4/PM	NRR/DORL/LPL4/LA	NRR/DORL/LSPB
NAME	SLingam	PBlechman	MBanic
DATE	3/30/17	3/30/17	3/30/17
OFFICE	OGC - NLO	NRR/DORL/LPL4/BC	NRR/DORL/DD
NAME	MSimon	RPascarelli	KBrock
DATE	3/30/17	3/30/17	3/30/17

OFFICIAL RECORD COPY